

Opportunity Title: Doublet Pulse Coherent Ladar Based Space Situational Awareness and Science Measurements

Opportunity Reference Code: 0016-NPP-NOV23-LRC-Interdisc

Organization National Aeronautics and Space Administration (NASA)

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Application Deadline 11/1/2023 6:00:59 PM Eastern Time Zone

Description Opportunity Restricted to U.S. Citizens Only

Recently, NASA Langley has established a long range, pulse doublet Coherent ladar for space situational awareness and science applications. Mobility is one of its attractive features. Current research using this ladar system includes tracking resident space objects (RSOs) for conjunction management, micro-motion of RSOs, and imagery in low earth orbit (LEO) and beyond. Fundamental and applied research is being planned to develop and improve the coherent ladar performance by incorporating an ultrastable seed laser (1 Hz linewidth absolute frequency control ultrastable reference laser) for injection seeding purposes. This opportunity solicits research to utilize pulse doublet coherent ladar for ground based gravitational field measurements, absolute time interferometry, precision navigation and timing studies, detection of space-time distortions, and general relativity. The post-doctoral candidate must meet the following requirements: PhD degree in electrical engineering or physics, knowledge and experience in Lasers, Ladars, and programming in Matlab and/or C. Investigations could include theoretical study, performance modeling, ladar transceiver architecture enhancement and experimental measurements.

Location:

Langley Research Center
Hampton, Virginia

Field of Science: Interdisciplinary/Other

Advisors:

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- Eligibility Requirements**
- **Citizenship:** U.S. Citizen Only
 - **Degree:** Doctoral Degree.



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